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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,404	05/18/2005	Arnaud Favier	123956	5998

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EXAMINER
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BERNSHTEYN, MICHAEL

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/535,404

Applicant(s)

FAVIER ET AL.

Examiner

Michael Bernshteyn

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01/24/2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

1. This Office Action follows a response filed on January 24, 2006. Applicants have amended claims 16-30.
2. Claims 16-30 are pending.
3. This is the second non-final rejection.

#### ***Response to Arguments***

4. Applicant's arguments see Remarks, pages 5-9, filed on January 24, 2006, with respect to claims 16-30 have been fully considered and are persuasive. The objection of claims 18, 19, 21 and 27 has been withdrawn. The claim rejection under 35 USC §103 has been withdrawn.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 16-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites: "...polymer having a molar weight". It is not clear whether it is number average or weight average molecular weight. Additionally, the phrase "...which consists in preparing polymers having a molar weight of greater than 100 000 g/mol, with a polydispersity index of less than 1.2 for molar weights of less than 200 000 g/ml and of less than 1.4 for molar weights of greater than 200 000 g/mol, ..." is complicated for understanding. It is better to write the following: "...which consists in preparing

polymers having a polydispersity index of less than 1.2 for number average molecular weight in the range 100 000 – 200 000, ..." Appropriate correction is required.

Claim 17 recites: " number-average molar weight of greater than or equal to 100000 g/mol". It is not clear whether it is number average molecular weight or not. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 29 is rejected under 35 U.S.C. 102(e) as being anticipated by Klaerner et al. (U.S. Patent 6,716,948).

With regard to the limitation of instant claim 29, Klaerner discloses the polymer comprises **acrylamide-based** repeat units, is at least partially water- or aqueous medium-soluble or water- or aqueous medium-dispersible, has a **weight-average molecular weight at least about 75,000** and has a **polydispersity index of not more than about 2.0**. Hence, this embodiment includes linear and non-linear polymers of higher molecular weight that have a carefully controlled chain lengths and/or architecture--therefore providing a narrower range of hydrodynamic volume (col. 15, lines 33-41).

7. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klaerner et al. (U.S. Patent 6,716,948) in view of Takaki et al. (US Patent 6,359,093).

With regard to the limitation of instant claim 30, Klaerner does not disclose that the polymer is an N-acryloylmorpholine homopolymer.

With regard to the limitation of instant claim 30, Takaki discloses that the examples of unsaturated carboxylic acid amid compound include **acrylamide**, methacrylamide, **N-acryloylmorpholine**, etc. (col. 21 line 66 through col. 22, line 17).

Therefore, these compounds belong to the same class of acrylamide; they are functional equivalent and can be substituted with each other.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ monomer acryloylmorpholine as functional equivalent of acrylamide as taught by Takaki in Klaerner's controlled-architecture polymer in order to obtain polymers with low polydispersity.

Thus, the combination of Klaerner and Takaki renders the instant claims *prima facie* obvious absent evidence of unexpected results commensurate in scope to the claims.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Patent Examiner  
Art Unit 1713

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03/29/2006

  
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